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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HSIEH, PING Y

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/521,490	<b>Applicant(s)</b> SAITOU ET AL.	
	<b>Examiner</b> PING Y. HSIEH	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,9,13 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,9,13 and 22-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 28 recites the limitation "the first hinge portion" in line 6. There is insufficient antecedent basis for this limitation in the claim. Each of the at least two connection portions includes a first hinge portion. Therefore, it is not clear which or both the first hinge portion is mechanically fixed to the first casing and the first antenna element. Claim 28 further recites the limitation "the second hinge portion" in line 7. Each of the at least two connection portions includes a second hinge portion. Therefore, it is not clear which or both the second hinge portion is respectively mechanically fixed to each of the at least two feeding portions.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 4, 9, 13 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoji (U.S. PG-PUB NO. 2002/0169010), in view of Masaki (U.S. PG-PUB NO. 2003/0050032), Schober (U.S. PATENT NO. 4,471,493) and further in view of Shimazaki (U.S. PATENT NO. 6,876,875).

-Regarding claim 1, Shoji discloses a portable radio device comprising:

a first casing (**upper casing 3, fig. 1**);

a second casing (**lower casing 4, fig. 1**);

a connection portion, connecting the first casing to the second casing so as to freely rotate (**hinge portion 2 as disclosed in fig. 1 and paragraph 26**);

a first antenna element, provided in the first casing (**the outer sheath of the shield box 14 is used as the antenna as disclosed in fig. 4 and paragraph 32**);

a conductor element, provided in the second casing (**ground layer 10b' as disclosed in fig. 4 and paragraph 32**); and

each feeding portion having one end electrically connected to the first antenna element through the connection portion and the other end electrically connected to the conductor element (**as disclosed in fig. 12 and paragraph 40**),

wherein the connection portion has electric conductivity to form an antenna as a whole by the first antenna element, the connection portion and the conductor element (**flexible cable 9 as disclosed in fig. 4 and paragraph 31; and antenna 14 as disclosed in fig. 4 and paragraph 32**),

wherein the connection portion is arranged away from the conductor element at a distance (**as shown in fig. 4**), and the feeding portions are separate from each other along the rotation shaft in a prescribed gap (**as shown in fig. 12**).

However, Shoji fails to specifically disclose at least two feeding portions provided in the second casing.

Masaki discloses at least two feeding portions provided in the second casing (**i.e., Bluetooth module 63 and wireless LAN module 64, fig. 7**).

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the device of Shoji to include the features as disclosed by Masaki. One is motivated as such in order to reduce the diversity antenna effect.

However, the combination fails to specifically disclose the connection portion including a rotation shaft; and a dipole antenna.

Schober discloses a rotation shaft provided in the connection portion (**connector 18 as disclosed in fig. 2 and further disclosed in col. 3 lines 45-47 and 60-63**), and a dipole antenna (**as disclosed in col. 2 lines 55-57**)

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the connection portion of Shoji and Masaki to include the features as disclosed by Schober. One is motivated as such in order to provide a wireless extension telephone remote unit with a self contained dipole antenna.

However, the combination further fails to specifically disclose at least two connection portions and electrically conductive rotation shaft provided in each of the at least two connection portions.

Shimazaki discloses at least two connection portions and electrically conductive rotation shaft provided in each of the at least two connection portions **(conductive elements 36, 37, 36' and 37' at the hinge mechanism 34 as disclosed in fig. 3 and col. 3 lines 1-11).**

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the connection portion of Shoji, Masaki and Schober to include the features as disclosed by Shimazaki. One is motivated as such in order to provide electrically conductive rotating shaft.

-Regarding claim 2, the combination further discloses a plurality of first antenna elements **(Shoji, antenna 14 with matching circuits 20 or 22, fig. 12)** are provided in the first casing **(Shoji, as disclosed in fig. 4, 11-13)**; and the portable radio device further comprising a switching portion which switches the plurality of first antenna elements so as to connect to the feed portion **(Shoji, switch 23, fig. 12).**

-Regarding claim 4, the combination further discloses a half-wavelength element being electrically connected between at least one of the plurality of the first antenna elements and the switching portion **(Shoji, matching circuit 20 22 as disclosed in fig. 12 and paragraph 40; although Shoji does not specifically disclose the matching circuit to be a half-wavelength element, it would be obvious to do so in order to minimize a reflection level and input impedance)**.

-Regarding claim 9, the combination further discloses the antenna element and the conductor element are respectively formed in plate shapes along the surface of the first casing and the second casing **(Shoji, as shown in fig. 4)**.

-Regarding claim 13, the combination further discloses a second antenna element provided in the second casing near the connection portion **(Shoji, antenna 16, fig. 13)**;

a receiving field intensity measuring portion, measuring the receiving field intensity of a signal received by the first antenna element or the second antenna element **(Shoji, sensor 26 as disclosed in fig. 13 and paragraph 43-45)**; and

a switching portion, selecting and switching the antenna element having a higher receiving field intensity to a connection to a signal processing portion for performing a signal process in accordance with the measured result of the receiving field intensity measuring portion **(Shoji, switch 25 as disclosed in fig. 13 and paragraph 43-45)**,

wherein the first antenna element has a first feeding point for electrically connecting to the conductor element **(Shoji, as disclosed in paragraph 32)**;

wherein the second antenna element has second feeding point for electrically connecting to the conductor element **(Shoji, as disclosed in paragraph 32)**; and

wherein the first feeding point and the second feeding point are provided at the diagonal positions of opposed sides when the first casing and the second casing are opened **(although the reference does not disclose the same positions, it is obvious that the position of the feeding points are design choice and does not have to be identical)**.

-Regarding claim 22, the combination further discloses the first antenna element is an electric conductive frame forming a part of the first casing **(Shoji, as shown in fig. 4)**.

-Regarding claim 23, the combination further discloses each of the at least two connection portion includes a first hinge portion provided in the first casing **(Shoji, connection between flexible cable 9 and antenna 14, fig. 4; Masaki, fig. 7)** and a second hinge portion provided in the second casing **(Shoji, connection between flexible cable 9 and transmitting circuit 15, fig. 4)**, wherein the first hinge portion connected to an end of the first antenna element **(Shoji, as shown in fig. 4)**, and wherein the second hinge portion is arranged away from the conductor element at the distance, and connected to each of the at least two feeding portion **(Shoji, as shown in fig. 4; Masaki, fig. 7)**.



-Regarding claim 24, the combination further discloses the conductor element is a ground pattern provided on a circuit board (**Schober, as disclosed in col. 3 lines 60-63**).

-Regarding claim 25, the combination further discloses the connection portion is configured so that a capacity reactance occurs between the first hinge portion and the second hinge portion (**it would be obvious for a cable to do so in order to minimize a reflection level and input impedance**).

-Regarding claim 26, the combination further discloses each of the at least two connection portions is connected to each of the at least two feeding portions, respectively (**Masaki, fig. 7**).

-Regarding claim 27, the combination further discloses a switching portion provided in the second casing, and adapted to select any one of the at least two feeding portions to be electrically connected to a radio circuit disposed in the second casing (**Shoji, switching portion 23, fig. 12 and switching portion 25, fig. 14**).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 2, 4, 9 13 and 22-27 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday~Thursday 8am ~ 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lana N. Le can be reached on 571-272-7891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PING Y HSIEH/  
Examiner, Art Unit 2618

/Lana N. Le/  
Primary Examiner, Art Unit 2614